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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/051,517

Applicant(s)

FORRESTER, TIM

Examiner

Meless N. Zewdu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11-14, 17-26, 29-32, 43, 44, 46, 49-51, 53-57, 59 and 61-72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-14, 17-26, 29-32, 43-44, 46, 49-51, 53-57, 59 and 61-72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This action is in response to the communication filed on 8/1/07.
2. Claims 9-10, 16, 27-28, 39, 45, 47-48, 58, 60 were previously cancelled.
3. Claims 15, 33-38, 40-42 and 52 are canceled in the current amendment.
4. Thus, claims 9-10, 15-16, 27-28, 33-42, 45, 47-48, 52, 58 and 60 have been cancelled.
5. Claims 67-72 have been added.
6. Thus, claims 1-8, 11-14, 17-26, 29-32, 43-44, 46, 49-51, 53-57, 59 and 61-72 are pending in this action.

Response to Arguments

Applicant's arguments with respect to claims 1-8, 11-14, 17-26, 29-32, 43-44, 46, 49-51, 53-57, 59, 60-69 and 70-72 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

Claim 12 is objected to because of the following informalities: "antenna as the base station" should be changed into "antenna at the base station". Appropriate correction is required.

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Claim 51 is objected to because of the following informalities: the claim recites another GPS receiver on line 11, which suggests that the GPS enabled device has a secondary GPS receiver. Furthermore, the term "another" is vague since it does not specifically point out what is claimed. Still further, it does not have support in the specification. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12, 43 and 51 recites the limitation "**the position request**" in lines 7, 6 and 11, respectively. There is insufficient antecedent basis for this limitation in the claims. Furthermore, the GPS satellite information is received "**at a time not associated with a position request**". This contradicts with "receiving the position request"

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be

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patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 11-13, 17, 20-23, 29-31, 43, 46, 49, 51, 53-54, 59, 61-65, 67 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kingdon et al. (Kingdon), U.S. Patent No. 6,411,811, in view of Dooley et al. (Dooley) (US 6,525,689 B2) and Boesch et al. (Boesch), U.S. Pub. No. 2002/0111171.

Regarding claim 1: Kingdon discloses a method for providing position assist information from (reads on method for provisioning assistance GPS information to a mobile station from a Mobile Location Center MLC serving the Public Land Mobile Network 290, see Fig. 2; abstract), comprising:

transmitting the received GPS satellite information to a GPS enabled device (i.e., reads on MLC 240 obtaining assistance GPS data from GPS receiver 260 and forwards assistance GPS data to mobile station 200 with a built-in or attached GPC receiver 205)(col. 5,lines 10-16 and see Fig. 2);

receiving, from GPS enabled device, decoded position signals generated by the GPS enabled device using the GPS satellite information (e.g., latitude and longitude) to MLC and further, MLC forwards location information to Location Application LA) (col. 5,lines 17- 24); and

transmitting the determined position to the GPS enabled device (reads on MLC forwarding the location of the mobile station to the requesting Location Application LA, which can be within the mobile station itself, see col. 3,lines 57-64) (col. 5,lines 21-23).

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But, Kingdon does not explicitly teach about receiving, from a GPS satellite, GPS information through an antenna at the base station, as claimed by applicant. However, in the same field of endeavor, Dooley teaches about a base station, with a GPS signal receiving antenna, for assists in estimating the location of a mobile device (see abstract; fig. 3; col. 4, lines 26-32). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Kingdon's system with Dooley's GPS receiving signals antenna installed at a base station for the advantage of de-spreading a GPS spread spectrum signal received at a mobile unit with the assistance from a base station (se col. 1, lines 6-9). Furthermore, Kingdon in view of Dooley does not explicitly teach about transmitting the received GPS satellite information at a time that is not associated with a position request. However, in the same field of endeavor, Boesch teaches transmitting the received GPS satellite information to a GPS enabled device at a time that is not associated with a position request (see page 4 [0035-0043]). Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Kingdon in view of Dooley with the teaching of Boesch for the advantage of providing position assist information by transmitted periodically at times which are not associated with a position request for the purpose of maintaining current position assistance data (see Boesch, page 3 [0027]).

Regarding claim 2:Kingdon teaches about a method, wherein the GPS satellite information is transmitted periodically (see col. 4, lines 44-53). Note: the terms current and update indicate periodic transmission.

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Regarding claim 3: Kingdon teaches a method, further comprising periodically (i.e., reads on updating every thirty minutes) locating GPS satellites (i.e., reads on MLC obtaining relevant assistance GPS data such as identity of the visible satellites 280), wherein the GPS satellites information is periodically received from the located GPS satellites (i.e., via the reference GPS receiver 260 which has a line of sight view with satellites 280) (col. 4, lines 41-53).

Regarding claim 4: Kingdon discloses a method, further comprising inherent processing of the received GPS satellite information (i.e., the reference GPS receiver 206 computes a position solution based on received satellite 208 information) (col. 2, lines 30-43) and transmitting the processed information to the GPS enabled device (i.e., reads on MLC 240 obtaining assistance GPS data from GPS receiver 260 and forwards assistance GPS data to mobile station 200 with a built-in or attached GPS receiver 205) (col. 5, lines 10-16 and see Fig. 2).

Regarding claim 5: Kingdon teaches a method, further comprising periodically receiving the GPS satellites information from a position determination entity (reads on MLC) (i.e., Mobile Location Center (MLC) forwarding differential corrections received from the reference GPS receiver to the mobile station's serving base station transceiver BTS to be broadcast to mobile station within the cell every five seconds) (col. 4, lines 64-59).

Regarding claim 11: Kingdon teaches a method, further comprising: sending the decoded position information to a position determination entity (reads on mobile station sending location information (e.g., latitude and longitude) to MLC) (col. 5, lines 17-24);

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receiving a position of the GPS enabled device determined from the decoded position information from the position determination entity (reads on latitude and longitude calculated by mobile station transmitted back to MLC, see col. 5, lines 17-21); and transmitting the position to the GPS enabled device (reads on MLC forwarding the location of the mobile station to the requesting Location Application LA, which can be within the mobile station itself, see col. 3, lines 57-64) (col. 5, lines 21-23).

Regarding claim 12: most of the features of claim 12 are similar to the features of claim 1, except the following differences, which are also taught by Kingdon, wherein:

storing the received GPS satellite information (i.e., reads on storing current GPS assistance data in a database found in the MLC) (col. 5, lines 2-6);

receiving a position request (col. 5, lines 6-10). Therefore, claim 12 is rejected on the same ground and motivation as claim 1.

Regarding claim 13: Kingdon teaches a method, wherein the GPS satellite information is received, from the base station, periodically (col. 4, lines 44-53). When the references are modified as shown above (rejection of claim 1), the current (updated) GPS data will be transmitted from the base station.

Regarding claim 17: Kingdon teaches a method, further comprising adjusting a correlation time based on the stored information in order to improve the chances of acquiring the GPS satellites (i.e., reads on providing necessary assistance GPS data allows for quick calculation of position, hence improving the location accuracy of the MS) (col. 5, lines 24-33).

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Regarding claim 20: the features of claim 20 are similar to the features of claim 1.

Hence, claim 20 is rejected on the same ground and motivation as claim 1.

Regarding claim 21: Dooley teaches a base station, wherein the GPS receiver is configured to locate the GPS satellites periodically (i.e., reads on substantially continual constant possession of up to date GPS satellite information) (col. 4, lines 29-35). When the references are combined as shown in the rejection of claim 1 above, the base station itself will be able to periodically locate satellites.

Regarding claim 22: Dooley teaches a base station, further comprising a processor configured to process (i.e., reads on modify) the received GPS satellite information, wherein the transmitter is configured to transmit the processed information to the GPS enabled devices (col. 2, lines 35-40).

Regarding claim 23: Kingdon teaches about a base station comprising a network interface configured to interface the base station with a position determination entity, wherein the base station is configured to receive GPS satellites information from the position determination means through the network interface (see col. 4, lines 54-59).

Regarding claim 29: Dooley teaches a base station, further comprising a position determination entity (reads on GPS antenna, GPS receiver and microprocessor, see Fig. 3), wherein the position determination entity is configured to determine the position from the decoded position information (reads on position information) (col. 4, lines 26-53).

Regarding claim 30: the features of claim 30 are similar to the features of claims 1 and 23, wherein the featured interface is provided by Kingdon, as shown in the rejection of

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claim 23. Hence, claim 30 is rejected on the same ground and motivation as claims 1 and 23.

Regarding claim 31: Kingdon teaches about a base station, wherein the transmitter is configured to transmit the received GPS satellite information to the GPS enabled device over a control channel (BCCH), (see col. 4, lines 54-59).

Regarding claim 43: the features of claim 43 are similar to the features of claim 1, except a GPS enabled device comprising a memory device configured to store the received GPS satellite information, which is taught by Dooley (see col. 3, line 66-col. 4, line 25). Therefore, claim 43 is rejected on the same ground and motivation as claim 1.

Regarding claim 46: Dooley teaches a GPS enabled device, further configured to adjust a correlation time base on the stored information in order to improve the chances of acquiring the GPS satellites (see col. 2, line 29-col. 3, line 16; col. 5, lines 24-33).

Regarding claim 49: the feature of claim 49 is similar to the feature of claim 31. Hence, claim 49 is rejected on the same ground and motivation as claim 31.

Regarding claim 51: the features of claim 51 are similar to the features of claim 1, except a GPS enabled device comprising a memory device configured to store the received GPS satellite information, which is taught by Dooley (see col. 3, line 66-col. 4, line 25). Therefore, claim 51 is rejected on the same ground and motivation as claim 1.

Regarding claim 53: the feature of claim 53 is similar to the feature of claim 23. Hence, claim 53 is rejected on the same ground and motivation as claim 23.

Regarding claim 54: the feature of claim 54 is similar to the feature of claim 22. Hence, claim 54 is rejected on the same ground and motivation as claim 22.

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Regarding claim 57: the feature of claim 57 is similar to the feature of claim 24. Hence, claim 57 is rejected on the same ground and motivation as claim 24.

Regarding claim 59: Dooley teaches a wireless communication system, wherein the GPS enabled device is further configured to adjust a correlation time based on the stored information in order to improve the chance of acquiring the GPS satellite (see col. 2, line 29-col. 3, line 16; col. 5, lines 24-33).

As per claim 61: the feature of claim 61 is similar to the feature of claim 22. Hence, claim 61 is rejected on the same ground and motivation as claim 22. For the base station determining a full position determination entity (see Dooley's reference (fig. 3; col. 1, line 65-col. 2, line 9).

Regarding claim 62: the feature of claim 62 is same as one provided in claim 1. Hence, claim 62 is rejected on the same ground and motivation as claim 1.

Regarding claim 63: the feature of claim 63 is same as one provided in 1. Hence, claim 63 is rejected on the same ground and motivation as claim 1.

Regarding claim 64: the features of claim 64 are similar to the features of claim 30. Hence, claim 64 is rejected on the same ground and motivation as claim 30.

Regarding claim 65: the feature of claim 65 is similar to the feature of claim 31. Hence, claim 65 is rejected on the same ground and motivation as claim 31.

Regarding claim 67: the features of claim 67 are similar to the features of claim 1, except the "processor to determine a position –", which is obvious from the fact that location is determined, as shown in the rejection of claim 1. Thus claim 67 is rejected on the same ground and motivation as claim 1.

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Regarding claim 71: the feature of claim 71 is similar to the feature of claim 31. hence, claim 71 is rejected on the same ground and motivation as claim 31

Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to claims 1 and 12m above, and further, in view of Riley et al. (Riley), U.S. Patent Publication No. 2003/0125046.

Regarding claim 6: the references applied to claims 1 and 12teache the method steps of claim 1, but fail to explicitly teach a method of transmitting the information to the GPS enabled device each time the GPS enabled device registers with the base station. In a similar field of endeavor, Riley discloses transmitting the information to the GPS enabled device each time the GPS enabled device registers with the base station (reads on when a mobile station participates in a position location session, which is, as it travels from sector A to D, mobile begins to make a location fix or register, see Fig. 4) (p. 3-4 [0029] & [0036]). At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the combination to include transmitting of the GPS information each time the mobile registers for the purpose of assisting in location updating which is usually a part of registration when a mobile moves from cell to cell or sector to sector.

Regarding claim 14: the references applied to claims 1 and 12, teach the steps of method claim 12, but fails to further disclose comprising registering with the base station, and receiving the GPS satellite information during the registration.

In a similar field of endeavor, Riley discloses registering with the base station, and receiving the GPS satellite information during the registration (reads on when a

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mobile station participates in a position location session, which is, as it travels from sector A to D, mobile begins to make a location fix or register, see Fig. 4) (p. 3-4 [0029] & [0036]). At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the combination to include transmitting of the GPS information each time the mobile registers for the purpose of assisting in location updating which is usually a part of registration when a mobile moves from cell to cell or sector to sector.

Claims 7, 8, 18, 19, 25, 26, 56, 69 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to claims 1 and 12 above, and further in view of Mieno et al. (Meino) (US 6,463,386 B2).

Regarding claim 7: the references applied to claims 1 and 12 teach the method steps of claims 1 and 12; but fail to explicitly teach wherein the transmitted information includes access assist information. In a similar field of endeavor, Meio teaches about a GPS embodiment, wherein the base station provides support information (access assistance information) required for the processing for improving sensitivity to the GPS receiver via the communication line (see col. 3, lines 53-col.4, line 19). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to further modify the above references with the teaching of Meio for the advantage of a user to get position information by performing code tracking and position computation with the support of the base station (see col. 3, lines 53-66).

Regarding claim 8: Meio teaches a method, wherein transmitting information includes sensitivity assistance information (see col. 3, lines 53-64).

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Regarding claim 18: the feature of claim 18 is similar to the feature of claim 7. Hence, claim 18 is rejected on the same ground and motivation as claim 7.

Regarding claim 19: the feature of claim 19 is similar to the feature of claim 8. Hence, claim 19 is rejected on the same ground and motivation as claim 8.

Regarding claim 25: the feature of claim 25 is similar to the feature of claim 7. Hence, claim 25 is rejected on the same ground and motivation as claim 7.

Regarding claim 26: the feature of claim 26 is similar to the feature of claim 8. Hence, claim 26 is rejected on the same ground and motivation as claim 8.

Regarding claim 56: the feature of claim 56 is similar to the feature of claim 7. Hence, claim 56 is rejected on the same ground and motivation as claim 7.

Regarding claim 69: the feature of claim 69 is similar to the features of claim 7.

Hence, claim 69 is rejected on the same ground and motivation as claim 7.

Regarding claim 70: the feature of claim 70 is similar to the feature of claim 8. Hence, claim 70 is rejected on the same ground and motivation as claim 8.

Claims 24, 44, 55, 57 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to claims 20, 43, 51 and 67 above and further in view of Yamane, U.S. Patent Publication No. 2001/0044312 and Riley.

Regarding claim 24: the references applied to claims 20, 43, 51 and 67 do not explicitly teach about a base station comprising a receiver configured to receive a registration request from the GPS enabled device, wherein the base station is configured to transmit the GPS satellite information in response to the registration request. In a similar field of endeavor, Yamane discloses a receiver, wherein the base

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station is configured to receive a registration request to the base station (reads on through base stations) using the transmitter (p. 3 [0062]). At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the combination to include mobile terminal able to generate a registration request to the base station for the purpose of allowing registration at the appropriate times, i.e., when the mobile terminal has moved from one region to the next. Yamane fails to explicitly disclose wherein the GPS satellite information is received (i. e., from the base station) during the registration. In a similar field of endeavor, Riley discloses wherein the GPS satellite information is received (i.e., from the base station) during the registration (p. 3 [0029]). At the time of the invention it would have been obvious to one of ordinary skill in the art to have modified the combination to include transmitting the GPS satellite information in response to registration requests for the purpose of assisting in location updating which is usually a part of registration when a mobile moves from cell to cell or sector to sector.

Regarding claim 44: the feature of claim 44 is similar to the feature of claim 24. Hence, claim 44 is rejected on the same ground and motivation as claim 24.

Regarding claim 55: the feature of claim 55 is similar to the feature of claim 24>

Hence, claim 55 is rejected on the same ground and motivation as claim 24.

Regarding claim 57: the feature of claim 57 is similar to the feature of claim 24. Hence, claim 57 is rejected on the same ground d and motivation as claim 24.

Regarding claim 68: the feature of claim 68 is similar to the feature of claim 24. Hence, claim 68 is rejected on the same ground and motivation as claim 24.

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Claims 32, 50, 66 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to claim 20 above and further in view of Ramesh, U.S. Patent No. 6,636,740.

Regarding claim 32: the references applied to claims 1 and 20 fail to explicitly disclose wherein the control channel is a PCS common control channel.

In a similar field of endeavor, Ramesh discloses wherein the control channel is a PCS common control channel (col. 6, lines 17-46).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the references applied to claim 20 to include a base station operating in a PCS radio communication network thus capable of allowing a mobile unit to listen the broadcasted position information on a PCS common control channel.

Regarding claim 50: the feature of claim 50 is similar to the feature of claim 32. Hence, claim 50 is rejected on the same ground and motivation as claim 32.

Regarding claim 66: the feature of claim 66 is similar to the feature of claim 32. Hence, claim 66 is rejected on the same ground and motivation as claim 32.

Regarding claim 72: the feature of claim 72 is similar to the feature of claim 32. Hence, claim 72 is rejected on the same ground and motivation as claim 32.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meless N. Zewdu whose telephone number is (571) 272-7873. The examiner can normally be reached on 8:30 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Appiah Charles can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Any inquiry of a general nature relating to the status this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

Meless Zewdu

Primary examiner

22 October 2007.

A handwritten signature in black ink, appearing to read 'Zewdu, Meless', written in a cursive style.